UNITED STATES PATENT AND TRADEMARK OFFICE

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10/787,112	02/27/2004	Yasuyuki Mimatsu	TSM-35	5084

24956 7590 10/11/2006		EXAMINER
MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C.		DOAN, TRANG T

ART UNIT	PAPER NUMBER
2131	

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DATE MAILED: 10/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _31 May 2006_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-20_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-20_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _14 July 2004_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☒ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 1-20 are pending in this application.

Claim Objections

2.   Regarding claim 1, "a first network,, comprising", in line 8, is incorrect. The examiner interprets as "a first network, comprising". Appropriate correction is required.

3.   Regarding claim 11, "second network:" is incorrect. The examiner interprets as "second network;". Appropriate correction is required.

Priority

4.   Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on 11/26/2003. It is noted, however, that applicant has not filed a certified copy of the 2003-395370 application as required by 35 U.S.C. 119(b).

Claim Rejections - 35 USC § 112

5.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6.   Claims 1, 9-12 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7.   Regarding claims 1, 9-12 and 16, the examiner confuses who or what obtains the access restriction information, information at a volume, and attribute information.

Claim Rejections - 35 USC § 102

8.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9.   Claims 1-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Ofek et

al. (US Patent 6598134) (hereinafter Ofek).

10.   Regarding claim 1, a first step for obtaining access restriction information and

information at a volume which are set up on each port that a first storage device has,

through a second network (Ofek: see figure 1 items 12, 24 and 14: host requests

access to old data storage system through new data storage system); a second step for

obtaining attribute information including a port type and a status of utilization of each

port that a second storage device has, from said second storage device through said

second network (Ofek: see figure 2 and column 4 lines 38-64: data map/table contains

parameters that maps the new data storage system to the old data storage system); a

third step for selecting a port of said second storage device which is utilized for an

access to a volume that said first storage device has or had, on the basis of attribute

information of each port that said second storage device has, which is obtained in said

second step (Ofek: see figure 1 and column 5 lines 11-19); and a fourth step for setting

up, on a port of said second storage device which is selected in said third step, access

restriction information of a port of said first storage device to which a volume, of which

the port is utilized for an access, is assigned, on the basis of access restriction

information and information of a volume of each port that said first storage device has,

which are obtained in said first step (Ofek: see figures 1 & 5 and column 5 lines 45-55

and column 6 lines 14-46).

11.   Regarding claim 2, Ofek teaches wherein said third step selects a target port

which is utilized for reception of an access request to a volume that said first storage

device has from said host computer, and an initiator port which is utilized for

transmission of an access request to a volume that said first storage device has from

said second storage device, and said fourth step sets up, on a target port of said

second storage device which is selected in said third step, access restriction information

of a port of said first storage device to which a volume, of which the port is utilized for an

access, is assigned, and permits only an access request to access restriction

information of said first storage device to which the volume is assigned from an initiator

port of said second storage device which is selected in said third step (Ofek: see figures

1& 5 and column 4 lines 38-64).

12.   Regarding claim 3, Ofek teaches wherein said first step obtains access restriction

information which is set up on each port that a first storage device has and information

of a volume, from said first storage device through said second network (Ofek: see

figures 1 & 2 and column 8 lines 6-17 and lines 28-53 and column 12 lines 59-67 and

column 13 lines 1-22).

13.   Regarding claim 4, Ofek teaches wherein said first step specifies access

restriction information which is set up on each port that a first storage device has and

information of a volume, by obtaining information of a port of said host computer which

is utilized for an access to a volume that said first storage device has and information of

a port of said first storage device, from said host computer through said second network

(Ofek: see figure 1 items 12, 24 and 14: host requests access to old data storage

system through new data storage system).

14.   Regarding claim 5, Ofek teaches a fifth step for changing a port of said first

storage device which is associated with each mount point of a file system of said host

computer and a volume which is assigned to the port, to a port of said second storage

device which is utilized for an access to the volume and a volume which is defined on

the port (Ofek: see figure 2).

15. .   Regarding claim 6, Ofek teaches wherein said first storage device sets up access

restriction information on each port, by use of a first management table in which an

information identifier of a volume and a source port or an access to be permitted are

listed with a LUN unit with respect to each port, and said second storage device sets up

access restriction information on each port, by use of a second management table in

which a LUN and an identifier of a volume are listed with a group unit of source ports of

an access to be permitted with respect to each port, and said first step obtains said first

management table, and said fourth step prepares said second management table as to

each port of said second storage device which is selected in said third step, on the

basis of a listed content of said first management table which is obtained in said first

step as to each port of said first storage device to which a volume, of which said port is

utilized for an access, is assigned, and updates said second management table that

said second storage device has (Ofek: see figures 1 & 2 and column 4 lines 38-64:

data map/table contains parameters that maps the new data storage system to the old

data storage system).

16.   Regarding claim 7, Ofek teaches wherein in case that said host computer has a

plurality of paths which are used for an access to the same volume, a process of said

fourth step to the volume is carried out at least twice separately to said plurality of paths

(Ofek: see figures 1 and 5).

17.   Regarding claim 8, Ofek teaches wherein said second network is different from

said first network (Ofek: see figures 1 and 5).

18.   Regarding claim 9, Ofek teaches obtaining unit which obtains access restriction

information and information of a volume which are set up on each port that a first

storage device has, and attribute information including a port type and a status of

utilization of each port that a second storage device has, through a second network

(Ofek: see figure 1 items 12, 24 and 14: host requests access to old data storage

system through new data storage system); selecting unit which selects a port of said

second storage device which is utilized for an access to a volume that said first storage

device has or had, on the basis of attribute information of each port that said second

storage device has, which is obtained in said obtaining unit (Ofek: see figure 2 and

column 4 lines 38-64: data map/table contains parameters that maps the new data

storage system to the old data storage system); and setting unit which sets up, on a port

of said second storage device which is selected in said selecting unit, access restriction

information of a port of said first storage device to which a volume, of which the port is

utilized for an access, is assigned, on the basis of access restriction information and

information of a volume of each port that said first storage device has, which are

obtained in said obtaining unit (Ofek: see figure 2 and column 4 lines 38-64 and column

5 lines 45-55 and column 6 lines 14-46).

19.   Regarding claim 10, Ofek teaches obtaining unit which obtains access restriction

information and information of a volume which are set up on each port that said first

storage device has, and attribute information including a port type and a status of

utilization of each port that said second storage device has, through a second network

(Ofek: see figure 1 items 12, 24 and 14: host requests access to old data storage

system through new data storage system); selecting unit which selects a port of said

second storage device which is utilized for an access to a volume that said first storage

device has or had, on the basis of attribute information of each port that said second

storage device has, which is obtained in said obtaining unit (Ofek: see figure 2 and

column 4 lines 38-64: data map/table contains parameters that maps the new data

storage system to the old data storage system); and setting unit which sets up, on a port

of said second storage device which is selected in said selection unit, access restriction

information of a port of said first storage device to which a volume, of which the port is

utilized for an access, is assigned, on the basis of access restriction information and

information of a volume of each port that said first storage device has, which are

obtained in said obtaining unit (Ofek: see figure 2 and column 4 lines 38-64 and column 5 lines 45-55 and column 6 lines 14-46).

20.   Regarding claim 11, Ofek teaches a first step for obtaining access restriction information and information of a volume which are set up on each port that a first storage device has, through a second network (Ofek: see figure 1 items 12, 24 and 14: host requests access to old data storage system through new data storage system); a second step for obtaining attribute information including a port type and a status of utilization of each port that a second storage device has, from said second storage device through said second network (Ofek: see figure 2 and column 4 lines 38-64: data map/table contains parameters that maps the new data storage system to the old data storage system); a third step for selecting a port of said second storage device which is utilized for an access to a volume that said first storage device has or had, on the basis of attribute information of each port that said second storage device has, which is obtained in said second step (Ofek: see figure 2 and column 4 lines 38-64 and column 5 lines 45-55 and column 6 lines 14-46); and a fourth step for setting up, on a port of said second storage device which is selected in said third step, access restriction information of a port of said first storage device to which a volume, of which the port is utilized for an access, is assigned, on the basis of access restriction information and information of a volume of each port that said first storage device has, which are obtained in said first step (Ofek: see figure 2 and column 4 lines 38-64 and column 5 lines 45-55 and column 6 lines 14-46).

21.   Regarding claim 12, Ofek teaches wherein said access restriction information

setting device obtains access restriction information and information of a volume which

are set up on each port that a first storage device has, through said second network,

obtains attribute information including a port type and a status of utilization of each port

that said second storage device has, from said second storage device through said

second network, selects a port of said second storage device which is utilized for an

access to a volume that said first storage device has or had, on the basis of attribute

information of each port that said second storage device has, which is obtained as

above, and sets up, on a port of said second storage device which is selected as above,

access restriction information of a port of said first storage device to which a volume, of

which the port is utilized for an access, is assigned, on the basis of access restriction

information and information of a volume of each port that said first storage device has,

which are obtained as above (Ofek: see figures 1 & 2 and column 4 lines 38-64 and

column 5 lines 45-55 and column 6 lines 14-46).

22.   Regarding claim 13, Ofek teaches a network I/F unit which is utilized for

connecting to said second network, and a calculation unit, wherein, said calculation unit

obtains access restriction information and information of a volume which are set up on

each port that a first storage device has, from said first storage device and attribute

information including a port type and a status of utilization of each port that the second

storage device has, from said second storage device, through said network I/F unit,

selects a port or said second storage device which is utilized for an access to a volume

that said first storage device has or had, on the basis of attribute information of each

port that said second storage device has, which is obtained as above, and sets up, on a

port of said second storage device which is selected as above, through said network I/F

unit, access restriction information of a port of said first storage device to which a

volume, of which the port is utilized for an access, is assigned, on the basis of access

restriction information and information of a volume of each port that said first storage

device has, which are obtained as above (Ofek: see figures 1-5 and column 4 lines 38-

64 and column 5 lines 45-55 and column 6 lines 14-46).

23.   Regarding claim 14, Ofek teaches said access restriction information setting

apparatus has a network I/F unit which is utilized for connecting to said second network,

and a calculation unit, and said calculation unit obtains access restriction information

and information of a volume which are set up on each port that a first storage device

has, and attribute information including a port type and a status of utilization of each

port that a second storage device has, from said second storage device, through said

network I/F unit, selects a port of said second storage device which is utilized for an

access to a volume that said first storage device has or had, on the basis of attribute

information of each port that said second storage device has, which is obtained as

above, and sets up, on a port of said second storage device which is selected as above,

through said network I/F unit, access restriction information of a port of said first storage

device to which a volume, of which the port is utilized for an access, is assigned, on the

basis of access restriction information and information of a volume of each port that said

first storage device has, which are obtained as above (Ofek: see figures 1-5 and column

4 lines 38-64 and column 5 lines 45-55 and column 6 lines 14-46).

24.   Regarding claim 15, Ofek teaches said first and second storage devices and said

management server, wherein said first and second storage devices have a FC I/F which

connects to said Fibre Channel switch, and said management server has a LAN I/F unit

which is utilized for connecting to said LAN, and a calculation unit, and said calculation

unit obtains access restriction information and information of a volume which are set up

on each port of the FC I/F that a first storage device has from said first storage device,

and attribute information including a port type and a status of utilization of each port of

the FC I/F that the second storage device has, from said second storage device,

through said LAN I/F unit, selects a port of a FC I/F on said second storage device

which is utilized for an access to a volume that said first storage device has or had, on

the basis of attribute information of each port of the FC I/F that said second storage

device has, which is obtained as above, and sets up, on a port of the FC I/F of said

second storage device which is selected as above through said LAN I/F unit, access

restriction information of a port of the FC I/F of said first storage device to which a

volume, of which the port is utilized for an access, is assigned, on the basis of access

restriction information and information of a volume of each port of the FC I/F that said

first storage device has, which are obtained as above (Ofek: see figures 1-5 and column

4 lines 38-64 and column 5 lines 45-55 and column 6 lines 14-46).

25.   Regarding claim 16, Ofek teaches wherein said calculation unit obtains the

access restriction information and the information of the volume which are set up on

each port that said first storage device has, from said first storage device, through said

second network, selects, as the port of the second storage, a target port which is

utilized for receiving an access request from said host computer to a volume that said

first storage device has, and an initiator port which is utilized for sending an access

request from said second storage device to a volume that said first storage device has,

and sets up access restriction information of a port of said first storage device to which

a volume, of which the port is utilized for an access, is assigned, on the selected target

port of the second storage device, and in addition, updates access restriction

information of a port of said first storage device to which the volume is assigned so as to

permit an access request only from the selected initiator port of said second storage

device (Ofek: see figures 1 & 2 and column 4 lines 38-64 and column 5 lines 45-55 and

column 6 lines 14-46).

26.   Regarding claim 17, Ofek teaches wherein said calculation unit specifies access

restriction information which is set up on each port that said first storage device has and

information of a volume, by obtaining a port of said host computer which is utilized for

an access to a volume that said first storage device has and information of a port of said

first storage device, from said host computer through said second network (Ofek: see

figure 1 items 12, 24 and 14 and figure 2: host requests access to old data storage

system through new data storage system).

27.   Regarding claim 18, Ofek teaches wherein said calculation unit changes a port or

said first storage device which is associated with each mount point of a file system of

said host computer and a volume which is assigned to the port, to a port of said second

storage device which is utilized for an access to the volume and a volume which is

defined on the port (Ofek: see figures 1 & 2 and column 4 lines 38-64 and column 5 lines 45-55 and column 6 lines 14-46).

28.   Regarding claim 19, Ofek teaches wherein said first storage device sets up access restriction information on each port, by use of a first management table on which an information identifier of a volume and a source port of an access to be permitted are listed with a LUN unit with respect to each port, and said second storage device sets up access restriction information on each port, by use of a second management table on which a LUN and an identifier of a volume are listed with a group unit of source ports of an access to be permitted with respect to each port, and said calculation unit obtains said first management table, and prepares said second management table as to each port of said second storage device which is selected as above, on the basis of a listed content of said first management table and updates said second management table which said second storage device has (Ofek: see figures 1 & 2 and column 4 lines 38-64 and column 5 lines 45-55 and column 6 lines 14-46).

29.   Regarding claim 20, Ofek teaches wherein in case that said host computer has a plurality of paths which are used for an access to the same volume, a process of setting up said access restriction information to a volume is carried out at least twice separately to said plurality of paths (Ofek: see figures 1 & 2 and column 4 lines 38-64 and column 5 lines 45-55 and column 6 lines 14-46).

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Trang Doan whose telephone number is (571) 272-

0740. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Ayaz Sheikh can be reached on (571) 272-3795. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Trang Doan
Examiner
Art Unit 2131

T.D.
September 29, 2006

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